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EXAMINER	
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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/918,691	PRIMROSE ET AL.	
	Examiner	Art Unit	
	Clemence Han	2668	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/17/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 22 and 23, the reference number 158 and 160 are described as packet unpacker and data packer, respectively. Figure 6 teaches otherwise.

Appropriate correction is required.

Claim Objections

2. Claims 6, 11, 15, 20, 35 and 37-39 are objected to because of the following informalities:

Regarding to claim 6, there is a typographical error in line 8. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 11, there is a typographical error in the last line. "said first buffering structure" should be "said second buffering structure".

Regarding to claim 15, there is a typographical error in line 9. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 20, there is a typographical error in line 9. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 35, there is a typographical error in line 5. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 37, there is a typographical error in line 4. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 38, there is a typographical error in line 4. "selective merge" should be "selectively merge" as corrected in the amended claim 3.

Regarding to claim 39, there is a typographical error in line 10 and 12. "selective merge" should be "selectively merge" as corrected in the amended claim 3. Appropriate correction is required.

3. Claims 26 and 31 are objected to because of the following informalities:

Regarding to claim 26, there is a typographical error in line 6. "selective route" should be "selectively route" as corrected in the amended claim 2.

Regarding to claim 31, there is a typographical error in line 5. "selective route" should be "selectively route" as corrected in the amended claim 2. Appropriate correction is required.

4. Claim 32 is objected to because of the following informalities: There is a typographical error in line 7. "said fifith storage structure" should be "said fifth storage structure". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 3, 6, 10, 13, 15, 18, 20, 25, 27, 30, 32, 33, 35 and 37-39 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims recites the limitation "packet packing logic, ... insertion ones of said egress/ingress packets in unpacked portions". As seen in the Figure 6, the specification only teaches "packet packing logic 154 and 158, ... insertion ones of said egress/ingress packets in packed portions" (Specification page 16 and 23).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 4-7, 9, 11-15, 40 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 4 recites the limitation "said first medium" in line 3. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 7 recites the limitation "said second medium" in line 3. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 9 recites the limitation "said first medium" in line 3. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 11 recites the limitation "said first buffering structure" in line 8. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 12 and 13 recites the further limitations regarding to the first plurality of storage structures and the first diversion/insertion logics in terms of "egress" buffers. However, as shown in the claim 11, the first plurality of storage structures are "ingress" buffers. It is unclear and indefinite which plurality of storage structures and which diversion/insertion logics are further limited by the instant claims.

14. Claim 14 recites the limitation "the first medium" in line 5. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 14 and 15 recites the further limitations regarding to the second plurality of storage structures and the first diversion/insertion logics in terms of "ingress" buffers. However, as shown in the claim 11, the second plurality of storage structures are "egress" buffers. It is unclear and indefinite which plurality

of storage structures and which diversion/insertion logics are further limited by the instant claims.

16. Claim 15 recites the limitation "the first medium" in line 3. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 40 recites the limitation "said storage structure" in line 6. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 41 recites the limitation "said storage structure" in line 6. There is insufficient antecedent basis for this limitation in the claim. Watanabe (US 6,304,571).

Claim Rejections - 35 USC § 102

19. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

20. Claim 1-11 and 30-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujisawa et al. (US 6,785,290).

Regarding to claim 1, Fujisawa teaches a networking apparatus comprising; a switching fabric 42 including a plurality of ingress/egress points to switch routing paths of packets received through mediums coupled to the ingress/egress points (see Figure 8D); and a first buffering structure including a first plurality of storage structures and first associated packet diversion and insertion logic 16, said

first plurality of storage structures including an egress diverted packet buffer 44A, an egress undiverted packet buffer (DQ1-DQ5 in 56), and an egress inserted packet buffer 44B, said first buffering structure coupled to a first of said ingress/egress points.

Regarding to claim 2, Fujisawa teaches said first buffering structure comprises a divert logic 16 coupled to the first ingress/egress point and to said first plurality of storage structures to selectively route egress packets from said first ingress/egress point onto a selected one of said first plurality of storage structures (Column 11 Line 11-29); and a register interface 110, including packet unpacking logic, coupled to said egress diverted packet buffer 44A to facilitate retrieval by a processor 46 diverted ones of said egress packets in unpacked portions (Column 1 Line 53-57).

Regarding to claim 3, Fujisawa teaches said first buffering structure comprises a register interface 110, including packet packing logic, to facilitate provision to said egress inserted packet buffer 44B by a processor 46 insertion ones of said egress packets in unpacked portions; and an insertion logic 16 coupled to said egress undiverted packet buffer (DQ1-DQ5 in 56) and to said egress inserted packet buffer 44B to selectively merge undiverted ones and said insertion ones of said egress packets.

Regarding to claim 4, Fujisawa teaches said first buffering structure further facilitates a first plurality of ingress packets being received from said first medium into said switching fabric 42 through said first ingress/egress point (see Figure 8D).

Regarding to claim 5, Fujisawa teaches said first buffering structure comprises a first storage structure (DQ1-DQ5 in 66) to stage undiverted ones of said ingress packets; a second storage structure 44C to stage diverted ones of said ingress packets; a divert logic 64 coupled to the first medium and said first and second storage structures to selectively route said ingress packets received from said first medium onto a selected one of said first and second storage structures; and a register interface 110, including packet unpacking logic, coupled to the second storage structure 44C to facilitate retrieval by a processor 46 said diverted ones of said ingress packets in unpacked portions (Column 1 Line 53-57).

Regarding to claim 6, Fujisawa teaches said first buffering structure comprises a first storage structure (DQ1-DQ5 in 66) coupled to the first medium to stage undiverted ones of said ingress packets; a second storage structure 44D to stage insertion ones of said ingress packets; a register interface 110, including packet packing logic, to facilitate provision to said second storage structure 44D by a processor 46 said insertion ones of said ingress packets in unpacked portions; and

an insertion logic 64 coupled to the first and second storage structures (DQ1-DQ5 in 66, 44D) to selective merge said undiverted ones and said insertion ones of said ingress packets.

Regarding to claim 7, Fujisawa teaches said second buffering structure further facilitates at least an additional selected one of diversion of selected ones of a second plurality of ingress packets being received from said second medium into said switching fabric 42 through said second ingress/egress point, and insertion of additional ones into said second plurality of ingress packets being received (see Figure 8D).

Regarding to claim 8, Fujisawa teaches a networking apparatus comprising: a switching fabric 42 including a plurality of ingress/egress points to switch routing paths of packets received through mediums coupled to the ingress/egress points (see Figure 8D); and a first buffering structure including a first plurality of storage structures and first associated packet diversion and insertion logic 64, said first plurality of storage structures including an ingress diverted packet buffer 44C, an ingress undiverted packet buffer (DQ1-DQ5 in 66), and an ingress inserted packet buffer 44D, said first buffering structure coupled to a first of said ingress/egress points.

Regarding to claim 9, Fujisawa teaches said first buffering structure comprises a divert logic 64 coupled to the first medium and to said first plurality of storage structures to selectively route ingress packets received from said first medium onto a selected one of said first plurality of storage structures (DQ1-DQ5 in 66, 44C); and a register interface 110, including packet unpacking logic, coupled to said ingress diverted packet buffer 44C to facilitate retrieval by a processor 46 diverted ones of said ingress packets in unpacked portions (Column 1 Line 53-57).

Regarding to claim 10, Fujisawa teaches said first buffering structure comprises a register interface 110, including packet packing logic, to facilitate provision to said ingress inserted packet buffer 44D by a processor 46 insertion ones of said ingress packets in unpacked portions; and an insertion logic 64 coupled to said ingress undiverted packet buffer (DQ1-DQ5 in 66) and to said ingress inserted packet buffer 44D to selectively merge undiverted ones and said insertion ones of said ingress packets.

Regarding to claim 11, Fujisawa teaches a networking apparatus comprising: a switching fabric 42 including a plurality of ingress/egress points to switch packets received through mediums coupled to the ingress/egress points (see Figure 8D); and a buffering structure including a first plurality of storage structures and first associated packet diversion and insertion logic 64, said first plurality of

storage structures including an ingress diverted packet buffer 66, an ingress undiverted packet buffer (DQ1-DQ5 in 66), and an ingress inserted packet buffer 44D, said first buffering structure coupled to a first of said ingress/egress points, and a second buffering structure including a second plurality of storage structures and second associated packet diversion and insertion logic 16, said second plurality of storage structures including an egress diverted packet buffer 44A, an egress undiverted packet buffer (DQ1-DQ5 in 56), and an egress inserted packet buffer 44B, said second buffering structure coupled to the first ingress/egress point.

Regarding to claim 30, Fujisawa teaches a buffering structure comprising: a first storage structure to stage undiverted ones of egress packets, the first storage structure comprising an egress undiverted packet buffer (DQ1-DQ5 in 56); a second storage structure to stage diverted ones of egress packets, a second storage structure comprising an egress diverted packet buffer 44A; a third storage structure to stage insertion ones of egress packets, a third storage structure comprising an egress inserted packet buffer 44B; a first divert logic 16 coupled to said first and second storage structures to selectively route egress packets onto a selected one of said first and second storage structures; a first insert logic 16 coupled to said first and third storage structures to selectively merge said undiverted ones and said insertion ones of said egress packets; and a register interface 110, including packet

packing and unpacking logic, coupled to the second and third storage structures to facilitate retrieval by a processor 46 said diverted ones of said egress packets in unpacked portions, and provision by said processor 46 said insertion ones of said egress packets in unpacked portions.

Regarding to claim 31, Fujisawa teaches said buffering structure further comprises a fourth storage structure (DQ1-DQ5 in 66) to stage undiverted ones of ingress packets; a fifth storage structure 44C to stage diverted ones of ingress packets; a second divert logic 64 coupled to said fourth and fifth storage structures to selective route ingress packets onto a selected one of said fourth and fifth storage structures, and said register interface 110, also coupled to the fifth storage structure to facilitate retrieval by said processor 46 said diverted ones of said ingress packets in unpacked portions.

Regarding to claim 32, Fujisawa teaches said buffering structure further comprises a fourth storage structure (DQ1-DQ5 in 66) to stage undiverted ones of ingress packets, a fifth storage structure 44D to stage insertion ones of ingress packets, and an insertion logic 64 coupled to the fourth and fifth storage structures to selectively merge said undiverted ones and said insertion ones of said ingress packets; and said register interface 110 is further coupled to said fifth storage

structure to facilitate provision to said fifth storage structure by said processor 46 said insertion ones of said ingress packets in unpacked portions.

Regarding to claim 33, Fujisawa teaches a buffering structure comprising: a first storage structure to stage undiverted ones of ingress packets, the first storage structure comprising an ingress undiverted packet buffer (DQ1-DQ5 in 66); a second storage structure to stage diverted ones of ingress packets, a second storage structure comprising an ingress diverted packet buffer 44C; a third storage structure to stage insertion ones of ingress packets, a third storage structure comprising an ingress inserted packet buffer 44D; a first divert logic 64 coupled to said first and second storage structures to selectively route ingress packets onto a selected one of said first and second storage structures; a first insert logic 64 coupled to said first and third storage structures to selectively merge said undiverted ones and said insertion ones of said ingress packets; and a register interface 110, including packet packing and unpacking logic, coupled to the second and third storage structures to facilitate retrieval by a processor 46 said diverted ones of said ingress packets in unpacked portions, and provision by said processor 46 said insertion ones of said ingress packets in unpacked portions.

Regarding to claim 34, Fujisawa teaches said buffering structure further comprises a fourth storage structure (DQ1-DQ5 in 56) to stage undiverted ones of

egress packets; a fifth storage structure 44A to stage diverted ones of egress packets; a second divert logic 16 coupled to said fourth and fifth storage structures to selectively route egress packets onto a selected one of said fourth and fifth storage structures; and said register interface 110, also coupled to the fifth storage structure to facilitate retrieval by said processor 46 said diverted ones of said egress packets in unpacked portions.

Regarding to claim 35, Fujisawa teaches said buffering structure further comprises a fourth storage structure (DQ1-DQ5 in 56) to stage undiverted ones of egress packets, a fifth storage structure 44B to stage insertion ones of egress packets, and an insertion logic 16 coupled to the fourth and fifth storage structures to selective merge said undiverted ones and said insertion ones of said egress packets; and said register interface 110 is further coupled to said fifth storage structure to facilitate provision to said fifth storage structure by said processor 46 said insertion ones of said egress packets in unpacked portions.

Regarding to claim 36, Fujisawa teaches a buffering structure comprising: a first storage structure to stage undiverted ones of ingress packets, the first storage structure comprising an ingress undiverted packet buffer (DQ1-DQ5 in 66); a second storage structure to stage diverted ones of ingress packets, the second storage structure comprising an ingress diverted packet buffer 44C; a third storage

structure to stage undiverted ones of egress packets, the third storage structure comprising an egress undiverted packet buffer (DQ1-DQ5 in 56); a fourth storage structure to stage diverted ones of egress packets, the fourth storage structure comprising an egress diverted packet buffer 44A; a first divert logic 64 coupled to said first and second storage structures to selectively route ingress packets onto a selected one of said first and second storage structures; a second divert logic 16 coupled to said third and fourth storage structures to selectively route egress packets onto a selected one of said third and fourth storage structures; and a register interface 110, including packet unpacking logic, coupled to the second and fourth storage structures to facilitate retrieval by a processor 46 said diverted ones of said ingress and egress packets in unpacked portions.

Regarding to claim 37, Fujisawa teaches said buffering structure further comprises a fifth storage structure 44D to stage insertion ones of ingress packets, an insertion logic 64 coupled to the first and fifth storage structures to selective merge said undiverted ones and said insertion ones of said ingress packets; and said register interface 110 is further coupled to said fifth storage structure to facilitate provision to said fifth storage structure by said processor 46 said insertion ones of said ingress packets in unpacked portions.

Regarding to claim 38, Fujisawa teaches said buffering structure further comprises a fifth storage structure 44B to stage insertion ones of egress packets, and an insertion logic 16 coupled to the third and fifth storage structures to selective merge said undiverted ones and said insertion ones of said egress packets; and said register interface 110 is further coupled to said fifth storage structure to facilitate provision to said fifth storage structure by said processor 46 said insertion ones of said egress packets in unpacked portions.

Regarding to claim 39, Fujisawa teaches a buffering structure comprising: a first storage structure to stage undiverted ones of ingress packets, the first storage structure comprising an ingress undiverted packet buffer (DQ1-DQ5 in 66); a second storage structure to stage insertion ones of ingress packets, the second storage structure comprising an ingress inserted packet buffer 44D; a third storage structure to stage undiverted ones of egress packets, the third storage structure comprising an egress undiverted packet buffer (DQ1-DQ5 in 56); a fourth storage structure to stage insertion ones of egress packets, the fourth storage structure comprising an egress inserted packet buffer 44B; a first insertion logic 64 coupled to the first and second storage structures to selective merge said undiverted ones and said insertion ones of said ingress packets; a second insertion logic 16 coupled to the third and fourth storage structures to selective merge said undiverted ones

and said insertion ones of said egress packets; and a register interface 110, including packet packing logic, coupled to the second and fourth storage structures to facilitate provision by a processor 46 said insertion ones of said ingress and egress packets in unpacked portions.

Regarding to claim 40, Fujisawa teaches said buffering structure further comprises a fifth storage structure 44C to stage diverted ones of ingress packets, a divert logic 64 coupled to the first and fifth storage structures to selectively route ingress packets onto a selected one of said first and fifth storage structures; and said register interface 110 is further coupled to said storage structure to facilitate retrieval by said processor 46 said diverted ones of said ingress packets in unpacked portions.

Regarding to claim 41, Fujisawa teaches said buffering structure further comprises a fifth storage structure 44A to stage diverted ones of egress packets, a divert logic 16 coupled to the third and fifth storage structures to selectively route egress packets onto a selected one of said third and fifth storage structures; and said register interface 110 is further coupled to said storage structure to facilitate retrieval by said processor 46 said diverted ones of said egress packets in unpacked portions.

Claim Rejections - 35 USC § 103

21. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

22. Claim 16-20, 22-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa et al. in view of Baydar et al. (US 6,049,550).

Regarding to claim 16, Fujisawa teaches a networking module comprising; a data link/physical layer processing unit, including a buffering structure comprising a plurality of storage structures and associated packet diversion and insertion logic 16, said plurality of storage structures including an egress diverted packet buffer 44A, an egress undiverted packet buffer (DQ1-DQ5 in 56), and an egress inserted packet buffer 44B, said buffering structure coupled to a first of said ingress/egress points, to facilitate at least a selected one of data link/physical processing of ingress packets received from a medium for said packet source/sink and egress packets to be routed from said packet source/sink onto said medium, with each of said data link/physical processing of ingress and egress packets including at least a selected one of diversion of selected ones of a plurality of ingress/egress packets being received from/routed onto said medium, and insertion of additional ones into said plurality of ingress/egress packets being received/routed (see Figure 8D). Fujisawa, however, does not teach an optical component to send and receive

optical signals encoded with data transmitted through a coupled optical medium; an optical-electrical component coupled to the optical component to encode digital data onto optical signals and to decode encoded digital data on optical signals back into their digital forms; a data link/physical layer processing unit coupled to the optical-electrical component and to a packet source/sink; and a body encasing said optical component, said optical-electrical component, and said data link/physical processing unit as a single module. Baydar teaches an optical component 265, 271 to send and receive optical signals encoded with data transmitted through a coupled optical medium; an optical-electrical component 60 coupled to the optical component to encode digital data onto optical signals and to decode encoded digital data on optical signals back into their digital forms; a data link/physical layer processing unit 274 coupled to the optical-electrical component 265, 271 and to a packet source/sink 267, 269; and a body encasing said optical component, said optical-electrical component, and said data link/physical processing unit as a single module (Figure 29, Column 44). It would have been obvious to one skilled in the art to modify Fujisawa to be used in optical environment as taught by Baydar in order to be able to interface with switch systems of the future, as well as those presently in service, including analog and digital system (Column 1 Line 24-53).

Regarding to claim 17, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a divert logic 16 coupled to said packet source/sink and to said egress undiverted packet buffer (DQ1-DQ5 in 56) and to said egress diverted packet buffer 44A to selectively route said egress packets from said packet source/sink onto a selected one of said egress undiverted packet and to egress diverted packet buffers; and a register interface 110, including packet unpacking logic, coupled to said egress diverted packet buffer 44A to facilitate retrieval by a processor 46 diverted ones of said egress packets in unpacked portions.

Regarding to claim 18, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a register interface 110, including packet packing logic, to facilitate provision to said egress inserted packet buffer 44B by a processor 46 insertion ones of said egress packets in unpacked portions; and an insertion logic 16 coupled to said egress undiverted packet buffer (DQ1-DQ5 in 56) and to said egress inserted packet buffer 44B to selectively merge undiverted ones and said insertion ones of said egress packets.

Regarding to claim 19, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a first storage structure (DQ1-DQ5 in 66) to stage undiverted ones of said ingress packets; a

second storage structure 44C to stage diverted ones of said ingress packets; a divert logic 64 coupled to the medium and said first and second storage structures to selectively route said ingress packets received from said medium onto a selected one of said first and second storage structures; and a register interface 110, including packet unpacking logic, coupled to the second storage structure to facilitate retrieval by a processor 46 said diverted ones of said ingress packets in unpacked portions.

Regarding to claim 20, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a first storage structure (DQ1-DQ5 in 66) coupled to the medium to stage undiverted ones of said ingress packets; a second storage structure 44D to stage insertion ones of said ingress packets; a register interface 110, including packet packing logic, to facilitate provision to said second storage structure by a processor 46 said insertion ones of said ingress packets in unpacked portions; and an insertion logic 64 coupled to the first and second storage structures to selectively merge said undiverted ones and said insertion ones of said ingress packets.

Regarding to claim 22, Baydar teaches said data link/physical layer processing unit comprises a multi-protocol processor that supports a plurality of datacom and telecom protocols (Column 8 Line 14-26).

Regarding to claim 23, Fujisawa teaches a processor comprising: a plurality of I/O interfaces to facilitate selective trafficking of data (Figure 8D); a plurality of data link and physical sub-layer processing units 46 selectively coupled to each other and to the I/O interfaces to be selectively employed in combination to perform selected data link and physical sub-layer processing on egress as well as ingress ones of said data, in accordance with said selected one of said plurality of protocols; and a buffering structure coupled to at least a system-side one of said I/O interfaces and a media processing one of said data link and physical sub-layer processing units, including a plurality of storage structures and associated packet diversion and insertion logic 16, said plurality of storage structures including an egress diverted packet buffer 44A, an egress undiverted packet buffer (DQ1-DQ5 in 56), and an egress inserted packet buffer 44B, said plurality of storage structures to facilitate at least a selected one of diversion of selected ones of a plurality of egress packets, and insertion of additional ones into said plurality of egress packets, diversion of selected ones of a plurality of ingress packets, and insertion of additional ones into said plurality of ingress packets. Fujisawa, however, does not teach a multi-protocol processor comprising: a plurality of I/O interfaces to facilitate selective optical-electrical trafficking of data transmitted in accordance with a selected one of a plurality of datacom and telecom protocols.

Baydar teaches a multi-protocol processor comprising: a plurality of I/O interfaces to facilitate selective optical-electrical trafficking of data 60 transmitted in accordance with a selected one of a plurality of datacom and telecom protocols (Column 8 Line 14-26, Figure 29, Column 44). It would have been obvious to one skilled in the art to modify Fujisawa to be used in optical environment as taught by Baydar in order to be able to interface with switch systems of the future, as well as those presently in service, including analog and digital system (Column 1 Line 24-53).

Regarding to claim 24, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a divert logic 16 coupled to said packet source/sink and said egress undiverted packet buffer (DQ1-DQ5 in 56) and to said egress diverted packet buffer 44A to selectively route said egress packets from said packet source/sink onto a selected one of said egress undiverted packet and to egress diverted packet buffers; and a register interface 110, including packet unpacking logic, coupled to said egress diverted packet buffer 44A to facilitate retrieval by a processor 46 diverted ones of said egress packets in unpacked portions.

Regarding to claim 25, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a register interface

110, including packet packing logic, to facilitate provision to said egress inserted packet buffer 44B by a processor 46 insertion ones of said egress packets in unpacked portions; and an insertion logic 16 coupled to said egress undiverted packet buffer (DQ1-DQ5 in 56) and to said egress inserted packet buffer 44B to selectively merge undiverted ones and said insertion ones of said egress packets.

Regarding to claim 26, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a first storage structure (DQ1-DQ5 in 66) to stage undiverted ones of said ingress packets; a second storage structure 44C to stage diverted ones of said ingress packets; a divert logic 64 coupled to the medium and said first and second storage structures to selectively route said ingress packets received from said medium onto a selected one of said first and second storage structures; and a register interface 110, including packet unpacking logic, coupled to the second storage structure to facilitate retrieval by a processor 46 said diverted ones of said ingress packets in unpacked portions.

Regarding to claim 27, Fujisawa teaches said plurality of storage structures and associated packet diversion and insertion logic comprises a first storage structure (DQ1-DQ5 in 66) coupled to the medium to stage undiverted ones of said ingress packets; a second storage structure 44D to stage insertion ones of said

ingress packets; a register interface 110, including packet packing logic, to facilitate provision to said second storage structure by a processor 46 said insertion ones of said ingress packets in unpacked portions; and an insertion logic 64 coupled to the first and second storage structures to selectively merge said undiverted ones and said insertion ones of said ingress packets.

Regarding to claim 29, Fujisawa teaches said processor is disposed on a single integrated circuit (Column 8 Line 63-64).

23. Claim 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa in view of Baydar et al. and further in view of Jannson et al. (US Pub. 2003/0081287).

Regarding to claim 21, Baydar teaches said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 622.08 Mbps (Column 1 Line 53). Fujisawa in view of Baydar, however, does not teach said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 10GB/s. Jannson teaches said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 10GB/s [0026]. It would have been obvious to one skilled in the art to

modify Fujisawa in view of Baydar to support 10GB/s as taught by Jannson in order to meet the demand for high capacity communication links [0004].

Regarding to claim 28, Baydar teaches said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 622.08 Mbps (Column 1 Line 53). Fujisawa in view of Baydar, however, does not teach said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 10GB/s. Jannson teaches said optical and optical-electrical components, said data link/physical layer processing unit are all designed to support data rates of at least 10GB/s [0026]. It would have been obvious to one skilled in the art to modify Fujisawa in view of Baydar to support 10GB/s as taught by Jannson in order to meet the demand for high capacity communication links [0004].

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the invention in general.

U.S. Patent 6,256,308 to Carlsson

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. H.

Clemence Han
Examiner
Art Unit 2668

STEVEN NGUYEN
PRIMARY EXAMINER